

REMARKS

Claims 1-28 are pending in the above-identified application. Claims 1-28 were rejected. With this Amendment, claim 1 was amended and claims 29-32 were added. Accordingly, claims 1-32 are at issue in the above-identified application.

35 U.S.C. § 102 Anticipation Rejection of Claims & 35 U.S.C. § 103 Obviousness Rejection of Claims

Claims 15-28 were rejected under 35 U.S.C. § 102(b) as being anticipated by *Kelley et al.* (U.S. Patent No. 6,080,501). Claims 1-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kelley et al.* and further in view of *Bass et al.* (U.S. Patent No. 6,001,500). Applicant respectfully traverses this rejection. Withdrawal of this rejection is respectfully requested.

Claim 1 recites an electrochemical device comprising a fuel electrode which becomes a negative electrode while accompanying generation of hydrogen, an oxygen electrode provided so as to be allowed to be in contact with oxygen, which becomes a positive electrode while accompanying generation of water from oxygen molecules, the hydrogen ions, and electrons, an ion exchange membrane for conducting the hydrogen ions in said fuel electrode into said oxygen electrode, said ion exchange membrane having a proton conductor comprising a polymer material, and a fuel source for supplying a fuel so as to generate the hydrogen ions in said fuel electrodes, wherein, said ion exchange member also comprises a carbon cluster derivative including a plurality of functional groups so as to be capable of transferring a plurality of protons between each of the functional groups of the carbon cluster derivative, said fuel electrode and said fuel source constitute a fuel electrode assembly in a state being in contact with each other, said fuel electrode assembly is surrounded by said ion exchange membrane in a state being in contact with said ion exchange membrane, and said ion exchange membrane is surrounded by

said oxygen electrode in a state being in contact with said oxygen electrode, wherein said fuel source is made from carbon-based fluorine molecules, carbon nanotubes, or carbon nanofibers. None of the cited references, either alone or in combination, teaches or discloses forming a fuel electrode and a fuel source which constitute a fuel electrode assembly in a state being in contact with each other, wherein said fuel electrode assembly is surrounded by an ion exchange membrane in a state being in contact with said ion exchange membrane, and *wherein the fuel source is made from carbon base fullerene molecules, carbon nanotubes, or carbon nanofibers*. By forming such a structure, the fuel source is able to absorb and support hydrogen, which has been externally supplied therein and supply the hydrogen to the fuel electrode. By forming said structure, the electrochemical device of the present invention does not require a fuel supply apparatus which is to be additionally provided outside the fuel cell for supplying fuel into the fuel cell, since said fuel is already contained in said fuel source.

None of the references teach or disclose such a structure. For example, while *Bass et al.* teaches a fuel cell having an innermost layer 34, said innermost layer 34 is preferably made from a stainless steel screen or cloth which has been welded otherwise converted into a cylindrical shape. *Bass et al.* does not teach or disclose using anything other than a stainless steel screen or cloth for said innermost layer 34. Furthermore, *Bass et al.* does not teach or disclose combining a fuel source within said innermost layer 34. Withdrawal of these rejections are respectfully requested.

In view of the foregoing, Applicant submits that the application is in condition for allowance. Notice to that effect is requested.

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Respectfully submitted,

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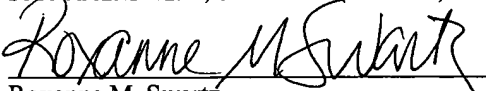
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